

REMARKS

In the Office Action, the Examiner noted the restriction requirement and associated response. In the amendment above, the claims for the non-elected invention are cancelled. The claims to non-elected species claims are indicated as withdrawn. If the independent claims from which the withdrawn claims depend are allowed, applicants intend to include the withdrawn claims.

In the Office Action, the Examiner objected to claims 1, 2, 8-11, 13, 23, 24, 27-29 and 33 due to informalities. To move prosecution forward, most of the suggestions provided by the Examiner are implemented in the amendments above. These amendments merely clarify the claims but are not related to patentability. The amendments are not narrowing.

Regarding claim 28, a person of ordinary skill in the art of ultrasound understands that signals may be received in response to firings or transmit events. Not claiming the transmission in the base claim does not detract from the understanding. This limitation of claim 28 is clear. Claim 28 also indicates that determining the property comprises measuring. The same "action" word is not required. One way to determine the property is to measure. This limitation of claim 28 is clear.

Regarding claim 29, the "multiple firings" limitation is clear as discussed above for claim 28.

In the Office Action, the Examiner rejected claims 1, 2, 13, 14, 23, 24, 28 and 33 pursuant to 35 U.S.C. § 102(b) as being anticipated by Reichenberger et al. (U.S. Patent No. 5,370,121). Claims 1, 2, 14, 23, 24 and 28 were rejected pursuant to 35 U.S.C. § 102(b) as being anticipated by Fakukita et al. (U.S. Patent No. 4,936,308). Claims 8-11, 27 and 29 were objected to as being dependent on a rejected base claim but would be allowable if rewritten in independent form and to overcome the informality objections. Applicants respectfully request reconsideration of the rejections and objections to the claims, including independent claims 1 and 14.

Independent claim 1 claims determining a temperature-dependent property of an ultrasound transducer from signals received from at least one element of the ultrasound transducer and determining a temperature state of the ultrasound transducer in response to determining the temperature-dependent property. Reichenberger et al. and Fakukita et al. do not disclose these limitations.

Reichenberger et al. disclose measuring temperature change in a subject (title). An acoustic wavefront is transmitted to a region of interest for measuring temperature (col. 1, lines 58-61; col. 5, lines 56-62 and col. 6, lines 6-11). Using echoes, the temperature inside of a living subject or other scanned material is measured (see for example: abstract; col. 1, lines 45-48; col. 2, lines 1-16, 28-31 and 54-62; col. 6, lines 42-46 and 56-61; col. 7, lines 8-15; and col. 8, lines). The temperature resulting from acoustic heating for treatment of the patient is measured to avoid tissue damage (col. 4, lines 16-28; col. 4, line 66-col. 5, line 8; and col. 8, lines 8-23). Reichenberger et al. use acoustic energy to determine temperature change within a scanned subject, not a temperature-dependent property of an ultrasound transducer or a temperature state of the ultrasound transducer.

Similarly, Fakukita et al. determine temperature changes inside tissue *in vivo* (see for example: col. 1, line 8-14 and 32-35; col. 2, lines 65-66; col. 3, lines 16-27; col. 4, lines 8-11; col. 6, lines 43-45; col. 8, lines 37-46; col. 9, lines 42-52; col. 10, lines 9-15; col. 11, lines 12-14; col. 15, lines 9, 31-35, 40-42, and 57-59; and col. 16, lines 40-42). Determining temperature changes in tissue, such as during hypothermia application of ultrasound (see col. 15, lines 57-59), is not determining a temperature-dependent property of an ultrasound transducer or a temperature state of the ultrasound transducer.

Both Reichenberger et al. and Fakukita et al. determine the temperature information for tissue or other material being examined or treated with acoustic energy, not the transducer.

Independent claim 14 claims determining a temperature of an ultrasound transducer. As discussed above, Reichenberger et al. and Fakukita et al. determine the temperature information for the specimen or subject, not the transducer.

Dependent claims 2, 13, 23, 24, 28 and 33 depend from claim 1, so are allowable for the same reasons.

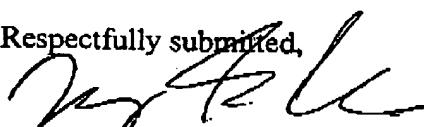
CONCLUSION:

Applicants respectfully submit that all of the pending claims are in condition for allowance and seeks early allowance thereof. If for any reason, the Examiner is unable to allow the application but believes that an interview would be helpful to resolve any issues, he is respectfully requested to call the undersigned at (650) 694-5810 or Craig Summerfield at (312) 321-4726.

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